

a similar source has been funded by the Superconducting Super Collider project. AccSys Technologies, Inc., is building a source designed by Lawrence Berkeley Laboratory for DESY, the German high-energy physics laboratory, and development is under way on a source that will be used for radioisotope tracer studies in environmental and medical research.

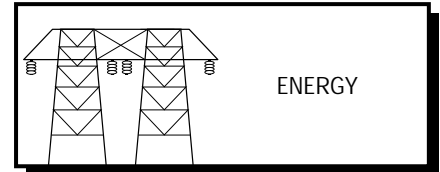
A cooperative R&D agreement, or CRADA, has been established to investigate the application of ion implantation in the automotive industry. The CRADA partners are Los Alamos National Laboratory and General Motors.

The surfaces of spacecraft orbiting the earth are eroded by atoms that impinge on them. This erosion, studied in space with the Long Duration Exposure Facility (LDEF) satellite, can be duplicated with neutral beams in the laboratory. In studies at Princeton Plasma Physics

Laboratory, funded by the National Aeronautics and Space Administration (NASA), damage suffered by the LDEF during 6 years in orbit was reproduced on the apparatus shown below in less than 40 hours.

NASA is also funding investigations of the application of ion beams to low-damage processing of semiconductor materials. This research, carried out as a collaboration between fusion researchers and IBM, will be applied in the next generation of microelectronic manufacturing.

The use of neutral beams for heating future fusion reactors is being considered. Energies up to 2 MeV will be required, and the accelerator technology to achieve this goal is under development. In conjunction with MEVVA sources, these accelerators will also provide the potential for rapid and efficient processing of bulk materials with large surface areas.



ENERGY



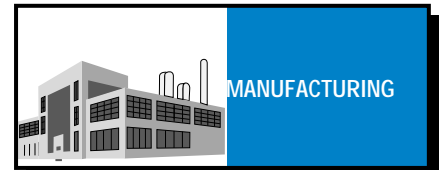
ENVIRONMENT



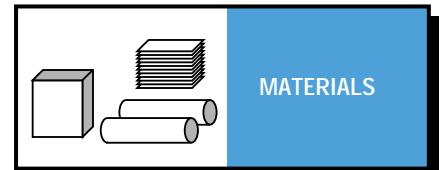
DEFENSE



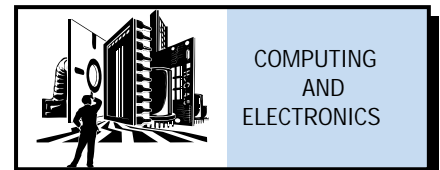
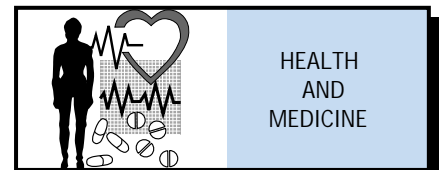
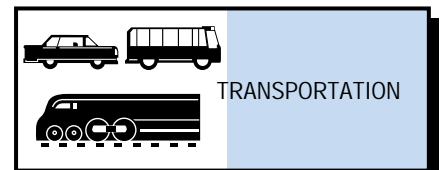
AEROSPACE



MANUFACTURING



MATERIALS

COMPUTING  
AND  
ELECTRONICSHEALTH  
AND  
MEDICINE

TRANSPORTATION

